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Claims

Sub c2 > 1. A method to identify agents that bind to a BT-toxin receptor, said method comprising the steps of:

- 5 i) contacting an agent with a BT-toxin binding receptor selected from the group consisting of a) a cell that has been altered to contain a nucleic acid molecule that encodes the amino acid sequence of SEQ ID No:2, b) a cell that has been altered to contain a nucleic acid molecule that encodes a fragment of the amino acid sequence of SEQ ID No:2 that binds to a BT toxin, c) a cell that has been altered to contain a nucleic acid molecule encoding a BT-toxin receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, d) a cell that has been altered to contain a nucleic acid molecule that encodes a fragment of a BT-toxin receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency and that binds to a BT toxin, e) an isolated protein with an amino acid sequence of SEQ ID No:2, f) an isolated fragment of a protein with an amino acid sequence of SEQ ID No:2, said fragment containing a BT-toxin binding domain, g) an isolated BT-toxin receptor that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, and h) an isolated fragment of a BT-toxin receptor that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, and
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- 20 ii) determining whether said agent binds to said BT-toxin receptor.

2. The method of claim 1, wherein said method further comprises the step of determining whether said agent blocks the binding of a BT-toxin to said BT-toxin receptor.

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~~73~~ The method of claim ~~1~~⁵, wherein said cell that has been altered is a eukaryotic cell.

Sub C3 > 4. The method of claim ~~3~~^C, wherein eukaryotic cell is an insect cell.

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Sub C4 > ~~5~~ A method to identify agents that block the binding of a BT-toxin to a BT-toxin receptor, said method comprising the steps of:

- i) contacting an agent, in the presence and absence of a BT-toxin, with a BT-toxin binding receptor selected from the group consisting of a) a cell that has been altered to contain a nucleic acid molecule that encodes the amino acid sequence of SEQ ID No:2, b) a cell that has been altered to contain a nucleic acid molecule that encodes a fragment of the amino acid sequence of SEQ ID No:2 that binds to a BT toxin, c) a cell that has been altered to contain a nucleic acid molecule encoding a BT-toxin receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, d) a cell that has been altered to contain a nucleic acid molecule that encodes a fragment of a BT-toxin receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency and that binds to a BT toxin, e) an isolated protein with an amino acid sequence of SEQ ID No:2, f) an isolated fragment of a protein with an amino acid sequence of SEQ ID No:2, said fragment containing a BT-toxin binding domain, g) an isolated BT-toxin receptor that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, and h) an isolated fragment of a BT-toxin receptor that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, and
- ii) determining whether said agent blocks the binding of said BT-toxin to said BT-toxin receptor.

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~~6.~~ The method of claim ¹~~5~~, wherein said BT-toxin is a member of the BT-cry(1) family of toxins.

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~~7.~~ The method of claim ¹~~5~~, wherein said cell that has been altered is a
5 eukaryotic cell.

sub C5 > ^{8.} The method of claim ¹~~7~~, wherein eukaryotic cell is an insect cell.

^{9.} An isolated antibody, wherein said antibody binds to a protein selected
10 from the group consisting of a) a BT-toxin receptor protein with an amino acid sequence of SEQ ID No:2, and b) a BT-toxin receptor protein that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, or a fragment of said antibody, wherein said antibody fragment binds to said BT-toxin.

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10. The antibody of claim 9, wherein said antibody binds to said BT-toxin receptor and blocks the binding of a BT-toxin to said receptor.

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11. The antibody of claim 10, wherein said antibody binds to an epitope located within the 232 c-terminal amino acids of the BT-toxin receptor depicted in SEQ ID No:2.

^{12.} An isolated BT-toxin receptor protein selected from the group consisting
25 of a) a BT-toxin receptor protein with an amino acid sequence of SEQ ID No:2, b) a BT-toxin receptor protein that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, c) a fragment of a BT-toxin receptor protein with an amino acid sequence of SEQ ID No:2, said fragment

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being able to bind to a BT-toxin, and d) a fragment of a BT-toxin receptor protein that is encoded by a nucleic acid molecule that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, said fragment being able to bind to a BT-toxin.

5 Sub ~~CG~~ 13. A method to produce BT-toxin receptor protein, or a fragment thereof, said method comprising the steps of:

- i) culturing a cell that has been altered to contain a nucleic acid molecule that encodes a BT-toxin receptor protein, or BT-toxin binding fragment thereof, wherein said cell has been altered to contain a nucleic acid molecule selected from the group
- 10 consisting of a) a nucleic acid molecule that encodes the amino acid sequence of SEQ ID No:2, b) a nucleic acid molecule that encodes a fragment of the amino acid sequence of SEQ ID No:2 that binds to a BT toxin, c) a nucleic acid molecule encoding a BT-toxin receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency, and d) a nucleic acid molecule that encodes a fragment of a BT-toxin
- 15 receptor that hybridizes to the nucleic acid sequence of SEQ ID No:1 under high stringency and that binds to a BT toxin, under condition in which said nucleic acid molecule is expressed and
- ii) isolating said BT-toxin receptor protein or fragment.

20 ~~10~~ 14. The method of claim ~~13~~ 9, wherein said cell that has been altered is a eukaryotic cell.

Sub ~~CF~~ 15. The method of claim ~~14~~ 10, wherein eukaryotic cell is an insect cell.